



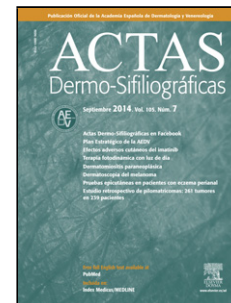
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Dermatitis de contacto debido al incremento de las prácticas sobre higiene de manos durante la pandemia de COVID-19 entre los estudiantes de Medicina: frecuencia, conocimiento y actitud

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Sección: Cartas Científico Clínica	1
	2
	3
	4
Contact Dermatitis From Amplified Hand Hygiene Practices In The COVID-19	5
Pandemic Among Medical Students: Frequency, Knowledge, and Attitude	6
Dermatitis de contacto debido al incremento de las prácticas sobre higiene de	7
manos durante la pandemia de COVID-19 entre los estudiantes de Medicina:	8
frecuencia, conocimiento y actitud	9
	10
* Batool Mutar M	11
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To the Editor: 33

Coronavirus disease-2019 pandemic continues to spread across the globe. Frequent 34
 use of detergents leads to skin allergic reaction due to the release of inflammatory 35
 mediators. Repeated itching leads to **scratching** at the affected area and secondary 36
 bacterial infection.¹ Medical students are an important younger sector in the community 37
 that can influence the health status. These hygiene recommendations advance during 38
 COVID-19 and changing practices among individuals.² This leads to a rise in 39
 unfavorable skin diseases and contact dermatitis from prolonged irritant detergents 40
 exposures and widespread use of antimicrobials disinfectants that are used to decrease 41
 infection with COVID-19.^{3,4} 42

The purposes of this study are highlight the frequency, knowledge, and attitude of 43
 contact dermatitis development with repeated exposures to detergents and disinfectants 44
 among medical students during this pandemic. 45

Patients and Methods: 47

A cross-sectional study was conducted during January 2021 to assess the frequency 48
 of contact dermatitis among Medical students during the COVID-19 pandemic. A total 49
 of 700 medical students from Al-Kindy Medical College, University of Baghdad 50
 participated in this survey using a Google questionnaire from an online platform was 51
 sent to the students online because face-to-face interviews were not applicable during 52
 this pandemic. The study protocol was reviewed by the Scientific and Ethical 53
 Committee of Al-Kindy Medical College without funding. The final form link was 54
 distributed among the medical students via Google platforms. The inclusion criteria 55
 were all medical students who had been studying in this college from different stages 56
 for the study period. The exclusion criteria were Staff, lecturers, teachers, and other 57
 administrators in the college were excluded. An online questionnaire by Google forms 58
 was used to collect the data and utilized as a screening instrument examining the 59
 frequency of contact dermatitis. (supplementary material) 60

Sampling method 61

Medical students were selected randomly from online Google platforms. Using 62
 Morgans' table to calculate sample size and considering the total number of students 63
 were 10000 with 99% CI and 5% margin of error; the sample size calculated was 622 64

while our study gets many responses and collected about 700 participants. All surveys were completed in their answers.

Statistical analysis

The data were analyzed using SPSS-version- 25. Descriptive statistics including frequencies, percentages, Independent-Sample Chi-Square Test, were used. P-value <0.05 was considered statically significant.

Results:

The sociodemographic characteristics of the 700 medical students at Al-Kindy College of Medicine were shown in table-1-. Of the 700 who participated in the study, all of them (100%) were single undergraduate students, 80% of them were Clinical stages and the rest were preclinical stages. Sex distribution was 55% female and males were 45%. Their age was 61.42% ≥ 20 years (20.2 ± 0.12). More than half of them (84.28%) lived in Baghdad. The frequency of CD among medical students during COVID-19 Pandemic was (26.42%) with a significant ($P=0.0000$) higher percentage among females students (150)(38.96%). Regarding males' students, only 35 of them (11.11) had CD and the rest did not have CD.

Regarding the knowledge of medical students about CD as shown in table-2-. Almost all students (98.42%) agreed that this disease had a relation with COVID-19 . About 82.71% of them did not agree that CD is a contagious disease. Nearly half of them (61.42%) know signs and symptoms. Students who used antiseptics frequently were (90%) and alcohol was mostly used (75%) and the rest were used Soap(25%). Table-3- illustrates the attitude of medical students about CD. A majority (93.71%) believed that CD increased with COVID-19, 90.28% agreed that its life –long disease. A proportion of students (67%) refused the idea of avoiding wearing masks, gloves, and detergent usage.

Discussion

In response to the COVID-19 pandemic outbreak, It was recommended proper and frequent handwashing with soap and using 70% alcohol. These recommendations have increased the incidence of hand eczema and contact dermatitis.⁵ Frequent usage of gloves and masks will affect the function of epidermal barrier of the skin in medical workers.⁶ This study was in agreement with other study that demonstrated a high

percentage (90.4%) of hand dermatitis among health care workers and (14.9%) of them had eczema (contact dermatitis).⁷ In Wuhan city; the hospitals of contact dermatitis among medical staff in university hospital was 74.5%.⁸ This difference may be due to type of workplace of sample selection, age of selected samples, differences in sample size, disparities in the characteristics of study participants and method of data collection. Daily using hand hygiene with alcohol demonstrated the lowest rates of skin barrier disruption and the highest reduction of colony forming unit.⁹ Other studies showed CD more affecting females which is comparable to our study like Saudi Arabia (46.4%) which might be due to similarities in socioeconomic characteristics of study sample.¹⁰ In spite of hand hygiene is important measure to prevent COVID-19 but skin barrier disruption can provide a site entry and viral attached to angiotensin converting enzyme receptor that presents in hair follicles, epidermis, and blood vessels of the skin.

Conclusions: This study showed that medical student's consideration contact dermatitis increased with frequent use of detergents during the COVID-19 pandemic. This may be due to frequent use of alcohol-based detergent. The educational level is an important factor for knowledge and attitude about this disease.

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Table-1- Sociodemographic characteristics of medical students. 172

Characters'	Categories	No.	%	Total
Age (years)	≥ 20	430	61.42	700
	<20	270	38.57	
Sex	Males	315	45.00	700
	Females	385	55.00	
Education	Postgraduate	0.00	00.00	700
	Undergraduate	700	100.0	
	Pre clinical stages (1,2,3)	140	20.00	
	Clinical stages (4,5,6)	560	80.00	
Address	Baghdad	590	84.28	700
	Others	110	15.71	
Marital status	Single	700	100.0	700
	Married	0.00	00.00	

173

Table-2- Knowledge of the medical students about CD and COVID-19. 174

Item	Yes		No	
	No.	%	No.	%
Cause of CD	500	71.42	200	28.57
Signs and symptoms	430	61.42	270	38.57
Treatment	238	34.00	462	66.00
Type of antiseptic used				
Alcohol	525	75.00	175	25.00
Soap	175	25.00	525	75.00
Frequency of using detergent				
Not frequent	70	10.00	630	90.00
Frequent	630	90.00	70	10.00
Complication	295	42.14	405	57.85
Type IV hypersensitivity	346	49.42	354	50.57
CD is a Contagious disease	121	17.28	579	82.71
Relation with COVID-19	687	98.42	13	01.85

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Table-3- Attitudes of the medical students about CD and COVID-19.

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Item	Yes		No	
	No.	%	No.	%
CD is a serious disease	327	46.71	373	53.28

Life-long disease	632	90.28	68	9.71
Preventable disease	435	62.14	265	37.85
Increased with COVID-19	656	93.71	44	6.28
Health education prevents CD	567	81.00	133	19.00
Treated at home	643	91.85	57	8.14
Avoid wearing masks and gloves	231	33.00	469	67.00

177